Redesigning in GaAs

Battery-hogging, static-ridden cell phones and other wireless devices could soon be obsolete, according to Zhenqiang Ma, a University of Wisconsin-Madison electrical engineer. He has redesigned a key electronic component in wireless devices so that it can increase the strength of outgoing signals while saving battery power.

Ma has come up with a new arrangement of transistors for the power amplifier. The new design allows for easier and more uniform heat dissipation. Since excessive heat lowers power amplification, this translates into a stronger signal and less wasted battery power; a cell-phone user could get 25% more talk-time out of each battery charge.

Ma has produced silicon chips that use his new design but he is now working on versions made from gallium arsenide.

He says his technology is ready to be licensed by a chip maker and could be on the market by the end of this year.

Bahrain to get AN/TPS defence radar from Lockheed

The US Marine Corps has awarded Lockheed Martin a $43.6m contract to provide an AN/TPS-59(V)3 ballistic missile defence radar system for the Kingdom of Bahrain.

Under the contract, Lockheed Martin will provide the AN/TPS-59(V)3B radar system, and associated supplies, equipment and services, to the Kingdom of Bahrain. The contract covers costs associated with resuming radar production at the NY, Syracuse facility of Lockheed.

"The AN/TPS-59 complements the Kingdom of Bahrain's existing Hawk missile battery," said Rick Wienert, Marines' Battlespace Management and Air Defense Systems FMS team leader.

"By providing a radar system with this capability, Lockheed Martin will be working to ensure the safety of the kingdom, along with the security of our. troops abroad."

The AN/TPS-59(V)3 is the only 360º coverage mobile radar in the world certified to detect tactical ballistic missiles.
It can precisely predict missile launch and impact points, and cue defensive weapons against incoming threats.
The radar can detect both single and multiple targets, and detect and track small air breathing targets such as aircraft. It is designed to operate with weapons systems such as Hawk and Patriot missile defence systems.

The radar can be integrated with other sensors for improved launch and impact point prediction, extended range capabilities, cooperative engagement and joint tactical information distribution.
Its 740km range exceeds that of 90% of tactical ballistic missiles in the world today, and its mobility allows it to be forward-based to further extend the range of the system.